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| 10/703,629 | 11/10/2003 | Takashi Sakakura | 1163-0484P | 2164 |
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| | | | EXAMINER KASRAIAN, ALLAHYAR | |
| | | | ART UNIT 2617 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary**Application No.**

10/703,629

Applicant(s)

SAKAKURA, TAKASHI

Examiner

ALLAHYAR KASRAIAN

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/05/2008 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-3, 5-10, and 12-14** are rejected under 35 U.S.C. 102(e) as being anticipated by **Matsunaga (U.S. Patent Application Pub. # 2004/0066746 A1)**.

Consider **claim 1**, Matsunaga clearly shows and discloses a router apparatus comprising (see FIG. 2 or FIG. 4 for Packet Transfer Apparatus 10 or 11):

an IP packet identification unit (see Flow Identifying Means 302) for identifying IP packets that are burstly transmitted to said router apparatus based on both a protocol for a transport layer, which is applied to received IP packets (par. 0035 and 0074), wherein each received IP packets is assigned a priority (par. 0011, 0020 and 0038, "the measured packet transfer rate is compared with rate information preset for each flow to determine priority order in which individual received packets are transferred") based on an amount of data stored in a statistical information storage field which stores statistical information of a target session (FIG. 2 or 4 and FIGS. 3 and for Flow Identification Database 303 considered with means 302, 304-306 (or 311-313) and 314, as statically information storage field and the target session is considered as a corresponding flow (indicated in FIG. 3, transport layer protocol 542; see also par. 0113-0115); par 0074-0076 and more in details in par. 0079-0096) and the transfer rate of each received IP packets and a transfer rate at a time of receiving IP packets, and for disabling a transfer of received IP packets that are determined to be burstly transmitted to said router apparatus (see lines 2-4 of par. 0059, "identifying means 302 searches the flow identification database 303 to identify an upper layer's flow corresponding to received data packets..." means 302 classifies the received packet based on transfer rate measurement and one of the classification is higher than maximum limiting rate which is considered as burstly IP packets. See lines 1-3 of par. 0110 for the disabling limitation, "this processing method when the maximum limiting rate is exceeded are... received packet discarding (Drop)..."; and lines 1-3 of par. 0113 for indication of transport layer limitation, "if transport layer protocol is UDP, the processing method when maximum

limiting rate is exceeded is set to (Drop)..."); and a transfer rate measurement unit for determining said transfer rate (see Fig. 2 for Packet Transfer measuring Means 304), wherein the statistical information storage field includes a already-processed indicating flag region which indicates whether the router apparatus has discarded the burstly transmitted received IP packets associated with the target session (FIG. 5, for processing method when maximum limiting rate is exceeded 538, par. 0109-0114, 0123).

Consider **claim 8**, Matsunaga clearly shows and discloses a method for disabling burst transmission to a router apparatus, comprising (FIG. 2 or 4, par. 0035):

identifying IP packets that are burstly transmitted to said router apparatus based on both a protocol for a transport layer, which is applied to received IP packets, and a transfer rate at a time of receiving IP packets (FIG. 2 or 4, par. 0035);

assigning each received IP packets a priority based on an amount of data stored in a statistical information storage field which stores statistical information of a target session and the transfer rate of each received IP packets (par. 0011, 0020 and 0038, "the measured packet transfer rate is compared with rate information preset for each flow to determine priority order in which individual received packets are transferred"; FIG. 2 or 4 and FIGS. 3 and 5 for Flow Identification Database 303 considered with means 302, 304-306 (or 311-313) and 314, as statically information storage field and the target session is considered as a corresponding flow (indicated in FIG. 3, transport

layer protocol 542; see also par. 0113-0115); par 0074-0076 and more in details in par. 0079-0096); and

disabling a transfer of received IP packets that are determined to be burstly transmitted to said router apparatus according to said priority (par. 0035),

wherein the statistical information storage field includes a already-processed indicating flag region which indicates whether the router apparatus has discarded the burstly transmitted received IP packets associated with the target session (FIG. 5, for processing method when maximum limiting rate is exceeded 538, par. 0109-0114, 0123).

Consider **claims 2 and 9 as applied to claims 1 and 8 above respectively**, Matsunaga clearly shows and discloses in a case of receiving IP packets to which TCP is applied as the protocol for the transport layer, said IP packet identification unit discards said IP packets so as to cause a terminal that is a sending source of said IP packets to adjust the transfer rate to a predetermined value or below when the transfer rate at the time of receiving said IP packets exceeds the predetermined value (see par. 0114 and 0115 for determining whether the transport layer if TCP when the maximum limiting rate is exceeded then the transmission of packet is stopped and sending acknowledgement packets to the source).

Consider **claims 3 and 10 as applied to claims 1 and 8 above respectively**, Matsunaga clearly shows and discloses in a case of receiving IP packets to which UDP is applied as the protocol for the transport layer, said IP packet identification unit

discards all IP packets associated with an identical session when the transfer rate at the time of receiving said IP packets exceeds a predetermined value (see lines 1-3 of par. 0110, "if transport layer protocol is UDP, the processing method when maximum limiting rate is exceeded is set to (Drop)...").

Consider **claims 5 and 12 as applied to claims 1 and 8 above respectively**, Matsunaga clearly shows and discloses said transfer rate measurement unit calculates the transfer rate only for sessions in which a time required for reception of preceding IP packets does not exceed a predetermined time (see par. , "the queue selection method in these queue selection means 307,308 and 309... by which expected transfer times are managed on the basis of... maximum limiting rate... and a packet is extracted from the queue of a flow having minimum expected transfer time.").

Consider **claims 6 and 13 as applied to claims 2 and 9 above respectively**, Matsunaga clearly shows and discloses dynamically sets the predetermined value based on a number of sessions stored in said router apparatus (see lines 3-6 of par. 0025, "maximum limiting rates preset for flows {F1, F2,..., Fi} which belong to group 1 and Msum be sum total of these maximum limiting rates...").

Consider **claims 7 and 14 as applied to claims 2 and 9 above respectively**, Matsunaga clearly shows and discloses dynamically sets the predetermined value according to an amount of transferred data stored in said router apparatus (see lines 6-

10 of par. 0117, "on the basis of the transport layer protocol of the flow identification conditions, the processing method when the maximum limiting rate is exceeded, it is possible to reduce buffer necessary for shaping and also reduce the processing load required for shaping").

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 4 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Matsunaga (U.S. Patent Application Pub. # 2004/0066746 A1)** in view of **Lo et al. (U.S. Patent Application Pub. # 2003/0095567 A1)**.

Consider **claims 4 and 11 as applied to claims 1 and 8 above respectively**, Matsunaga disclosed the claimed invention except said IP packet identification unit transfers IP packets to which RTP is applied as the protocol for the transport layer on a priority basis, and disables a transfer of IP packets to which other protocols are applied.

In the same field of endeavor, Lo et al. clearly show and disclose said IP packet identification unit transfers IP packets to which RTP is applied as the protocol for the transport layer on a priority basis, and disables a transfer of IP packets to which other protocols are applied (see FIG. 3 and lines 10-20 of paragraph 0022, "IP packets are analyzed by the protocol processor 44 and if a packet is identified as an RTP packet, the packet is redirected, away from the conventional IP/UDP processing as performed on the CPU 46 by an Operating System routine, and processed by the RTP handler module 48. The RTP handler module 48 preferably comprises firmware or a microcode routine executed by the protocol processor 44. The RTP handler module 48 is thus separate from the operating system and preferably executes on a separate processor...").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the real time protocol (RTP) identifier and processor as taught by Lo et al. to the flow identification means 302 of packet transfer apparatus 10 as disclosed by Matsunaga for the purpose of detecting and the processing of RTP flows with superiority separated from other flows. The proper motivation is to separate and process and the accelerate processing of RTP protocol from other protocols.

Response to Arguments

6. Applicant's arguments filed 06/05/2008 have been fully considered but they are not persuasive.

On page 6 (the third paragraph) of the Applicant's arguments/remarks, Applicant argues, "Although Matsunaga teaches that the measured packet transfer rate is compared with rate information preset for each flow to determine priority order in which individual received packets are transferred, nowhere does Matsunaga teach or suggest disabling a transfer of received IP packets that are determined to be burstly transmitted to the router apparatus ***according to the priority***. Indeed, Matsunaga teaches determining priority order of the received packets and *transferring* such received packets *based on the priority, not disabling the transfer* of the received IP packets according to the priority as required by claim 1." Examiner respectfully disagrees since Matsunaga determines the priority order of the packets based on measured packet transfer rate, and transfer a flow whose packet transfer rate is less than a minimum guaranteed rate comparing to those whose packet transfer rate is more than or equal to higher than the minimum guaranteed rate (see par. 0011, 0020 and 0038). Matsunaga also discloses if a packet transfer rate exceeds the maximum limiting rate, it is selected to discard the received packet (see par. 0035). It would be obvious to a person of ordinary skill in the art to conclude the flow with packet transfer rate exceeds the maximum limiting rate have the lowest priority and considered to be discarded (disabled).

From the last paragraph of page 6 to the first paragraph of page 7 of the Applicant's arguments/remarks, Applicant argues, "It is respectfully submitted that the Examiner is totally misinterpreting the Flow Identification Database 303 of Matsunaga... Matsunaga clearly fails to teach or suggest assigning a priority order based on the amount of data stored in the Flow Identification Database 303... The Flow Identification Database 303 does not hold information regarding the measured packet transfer rate nor a preset rate information of the upper layer flow to which the received packet belongs. Thus, it is respectfully submitted that Matsunaga fails to teach or suggest "wherein each received IP packets is *assigned a priority* based on an amount of data stored in a *statistical information storage field* which stores statistical information of a *target session*" as recited in claim 1." Examiner respectfully disagrees since flow Identification Database 303 should be considered with the means such as Flow Identifying Means 302, and also other means 304-306 (or 311-313) and 314. Means 304 and 314 include the assign priority (FIGS. 3 and 5, Queue Group 531, 535), packet data rate (FIGS. 3 and 5 packet data rate 530, 534), and processing method when maximum limiting rate is exceeded (FIG. 5, 538) with the Flow Identifier 502, 503 and 504 of means 304, 303 and 314 respectively.

On page 7 of the Applicant's arguments/remarks, Applicant argues, "Matsunaga fails to suggest that "the statistical information storage field includes a *already-processed indicating flag region* which *indicates whether the router apparatus has discarded the bursly transmitted received IP packets associated with the target session*" as now recited in independent claim 1." Examiner respectfully disagrees since

Matsunaga discloses the new limitation on FIG. 5 (for processing method when maximum limiting rate is exceeded 538) and par. 0109-0114, 0123

Therefore, claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Matsunaga.

Claim 8 is a method corresponding to apparatus of claim 1 and therefore it is rejected for the same reason(s) as stated above.

The dependent claims 2-3, 5-7, 9, 10 and 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsunaga.

From the last paragraph of page 7 to the first paragraph of page 8 of the Applicant's arguments/remarks with regards to claim 4 and 11, Applicant still argues Matsunaga fails to teach the limitations as recited in claim 1 (or method claim 8). Examiner respectfully disagrees since Matsunaga (combined with Lo et al.) disclose the limitations as stated above with com

Therefore, Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsunaga in view of Lo et al.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

- a. Ahmadi et al. (U.S. Patent # 5311513) disclose Rate-based congestion control in packet communications networks.

- b. Rogers et al. (U.S. Patent # 6064651) disclose Rate shaping in per-flow output queued routing mechanisms for statistical bit rate service.
8. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Allahyar Kasraian whose telephone number is (571) 270-1772. The Examiner can normally be reached on Monday-Thursday from 8:00 a.m. to 5:00 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*/Allahyar Kasraian/
Examiner, Art Unit 2617*

A.K./ak

*/Rafael Pérez-Gutiérrez/
Supervisory Patent Examiner, Art Unit 2617*

September 15, 2008